

REMARKS

Claims 1-16 remain pending in the present application. Claims 1, 8 and 14 are independent. Fig. 1B has been added. Applicant asserts that Fig. 1B contains no new matter and that disclosure may be found in claims 7 and 13 and page 5 of the specification. The specification and Figures have been additionally amended to reflect the addition of Fig. 1B.

Embodiment of the Present Invention

To aid the Examiner's understanding of the present invention, an embodiment of the present invention will be briefly described.

In an embodiment of the present invention as disclosed, *inter alia*, on page 3 of the specification, the sense amplifier, once operational, generates an output voltage indicating the state of the fuse being sensed. However, the time for the sense amplifier to complete the sensing operation and settle upon an output voltage value varies depending upon numerous factors. Furthermore, because one of the output voltage states of the sense amplifier is the same as the output voltage of the sense amplifier in the powered down state, the point when the sense amplifier has settled on an output voltage can not necessarily be detected from the output voltage of the sense amplifier. However, the validation circuit tracks or mimics the operation of the sense amplifier, but is structured such that the output voltage produced thereby transitions as the sense amplifier is settling on an output voltage, regardless of the a state of the fuse. As such, the validation circuit detects and indicates when the sense amplifier has sufficiently settled on an output voltage indicating the state of the fuse.

Drawings

Applicant asserts that the objection to the drawings is moot given the addition of Fig. 1B that shows a plurality of buried fuses and a sense amplifier associated with each of the buried fuses. Applicant additionally asserts that Fig. 1B does not contain new matter and support for Fig. 1B can be found, *inter alia*, on page 5 of the specification.

Rejections Under 35 U.S.C. § 112, First Paragraph

Claims 7 and 13 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant respectively traverses.

The Examiner asserts that the specification fails to teach “a plurality of buried fuses; and a sense amplifier associated with each of the buried fuses.” However, on page 5, lines 21-25, the specification clearly states in reference to Fig. 1A that while only one fuse and sense amplifier has been illustrated in Fig. 1A for the sake of clarity, it will be understood by those skilled in the art that numerous fuses and sense amplifiers could be connected in parallel with the illustrate sense amplifier 50 and fuse 52.

Accordingly, Applicants submit that the originally filed application clearly teaches one skilled in the art how to make and use a buried fuse reading device for a plurality of fuses.

Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 8-13 are rejected under 35 U.S.C. § 113, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant respectfully traverses.

With regard to claim 8, Applicant asserts that claim 8 is definite. As disclosed, *inter alia*, on page 8 of the specification as it relates to Fig. 1, the validation circuit 70 tracks the operation of the sense amplifier 50, and is analogous in operation to the sense amplifier 50 sensing an intact fuse. Accordingly, when the INVALID voltage transitions to a lower voltage, this indicates that the sensing amplifier 50 has settled sufficiently that the OUT voltage reliably indicates the state of the fuse 52. In this manner, the OUT voltage is latched just prior to the sense amplifier 50 reaching a steady-state. Additionally the trip point for latching the OUT voltage is dynamically adjusted based on operating conditions and other factors instead of operating the sense amplifier for the worst case condition.

In contrast to the Examiner, Fig. 1A clearly shows that the validation circuit (70) is related to the sense amplifier (50) at least because they are connected. Moreover, given the configuration of Fig. 1A, when the INVALID voltage transitions to a lower voltage, this indicates that the sensing amplifier 50 has settled sufficiently that the OUT voltage reliably indicates the state of the fuse 52.

Based on the foregoing, Applicant asserts that the recitation of claim 8 which states, “a validation circuit dynamically adjusting a validation point of the sense amplifier base on operation conditions” is definite and clear. For at least the above reasons,

Applicant respectfully requests that the 35 U.S.C. §112, second paragraph, rejection of claim 8 and claims 9-13 which are dependent there from be withdrawn.

Rejections Under 35 U.S.C. § 102

Claims 1-5, 8-11 and 14-16 are rejected under 35 U.S.C. § 102(b) as being anticipated by Starnes et al. (U.S. Patent No. 6,157,583). Applicant respectfully traverses.

With regard to claim 1, Applicant asserts that Starnes et al. fail to disclose a validation circuit detecting and indicating when output from a sense amplifier is valid. The Examiner alleges that the validation circuit of claim 1 reads on the inverter 258 in the latch 206 of Starnes et al. Starnes et al. disclose that the latch stage 206 includes an inverter 258, which is used in outputting a fuse state. This is different from the validation circuit of claim 1, because the inverter 258 of Starnes et al. provides information regarding the state of a fuse, whereas, the validation circuit of claim 1 detects and indicates when the output of a sense amplifier is valid. Starnes et al. is silent as to detecting and indicating when output from a sense amplifier is valid. Therefore, Starnes et al. can not disclose or suggest a validation circuit detecting and indicating when output from a sense amplifier is valid as recited in claim 1.

With regard to claims 8, Applicant asserts that Starnes et al. fail to disclose a validation circuit dynamically adjusting a validation point for a sense amplifier based on operating conditions, the validation point being a point in time when output from the sense amplifier is considered valid as recited in claim 8. The Examiner alleges that the validation circuit of claim 8 reads on the inverter 258 in the latch 206 of Starnes et al.

Starnes et al. disclose that the latch stage 206 includes an inverter 258, which is used in outputting a fuse state. This is different from the validation circuit of claim 8 because the inverter 258 of Starnes et al. provides information regarding the state of a fuse, whereas, the validation circuit of claim 8 adjusts a validation point that is a time when a sense amplifier is considered valid. Starnes et al. is silent as to adjusting a validation point that is a time when the sense amplifier is considered valid. Therefore, Starnes et al. can not disclose or suggest a validation circuit dynamically adjusting a validation point for a sense amplifier based on operating conditions, the validation point being a point in time when output from the sense amplifier is considered valid as recited in claim 8.

With regard to claim 14, Applicant asserts that Starnes et al. fail to disclose a tracking circuit tracking operation of a sense amplifier such that the tracking circuit indicates when the sense amplifier has sufficiently settled on a sensed condition of a buried fuse. The Examiner alleges that the tracking circuit of claim 14 reads on the inverter 258 in the latch 206 of Starnes et al. Starnes et al. disclose that the latch stage 206 includes an inverter 258, which is used in outputting a fuse state. This is different from the tracking circuit of claim 14 because the inverter 258 of Starnes et al. provides information regarding the state of a fuse, whereas, the tracking circuit of claim 14 indicates when the sense amplifier has sufficiently settled on a sensed condition of the buried fuse. Starnes et al. is silent as to indicating when a sense amplifier has sufficiently settled on a sensed condition of a buried fuse. Therefore, Starnes et al. can not disclose or suggest a tracking circuit that indicates when a sense amplifier has sufficiently settled on a sensed condition of a buried fuse as recited in claim 14.

For at least these reasons, Applicant respectfully requests that the Section 102(b) rejection of claims 1, 8, and 14 be withdrawn.

With regard to claims 2-5, 9-11, 15, and 16, Applicant asserts that claims 2-5, 9-11, 15, and 16 are allowable for their own merits and at least because they depend from one of independent claims 1, 8, and 14 which the Applicant believes have been shown to be allowable.

Rejections Under 35 U.S.C. § 103

Claims 7 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Starnes et al. (U.S. Patent No. 6,157,583). Applicant respectfully traverses.

With regard to claims 7 and 13, Applicant asserts that claims 7 and 13 are allowable for their own merits and at least because they depend from one of independent claims 1 and 8 which the Applicant believes have been shown to be allowable over Starnes et al.

Allowable Subject Matter

Applicant thanks the Examiner for indicating that claims 6 and 12 are allowed. Applicant has not put claims 6 and 12 into independent form because they depend from one of claims 1 and 8 which Applicant believes have been shown to be allowable.

CONCLUSION

In view of the foregoing, Applicant submits that claims 1-16 are patentable, and that the application as a whole is in condition for allowance. Early and favorable notice to that effect is respectfully solicited.

In the event that any matters remain at issue in the application, the Examiner is invited to contact the undersigned at (703) 668-8000 in the Northern Virginia area, for the purpose of a telephonic interview.

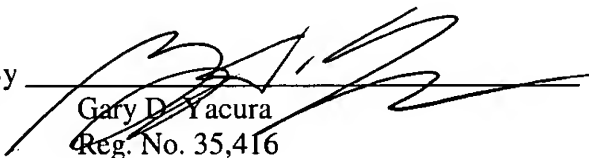
Pursuant to 37 C.F.R. 1.17 and 1.136(a), the Applicant respectfully petitions for a one (1) month extension of time for filing a response in connection with the present application, and the required fee of \$110.00 is attached.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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By


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